



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,903	01/11/2001	Ulrich Peuchert	NHL-SCT-21 US	8419

432 7590 12/18/2002

NILS H. LJUNGMAN & ASSOCIATES
P. O. BOX 130
GREENSBURG, PA 15601-0130

EXAMINER

BOLDEN, ELIZABETH A

ART UNIT	PAPER NUMBER
----------	--------------

1755

DATE MAILED: 12/18/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

VB

Office Action Summary	Application No.	Applicant(s)	
	09/758,903	PEUCHERT ET AL.	
	Examiner	Art Unit	
	Elizabeth A. Bolden	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-60 is/are pending in the application.
- 4a) Of the above claim(s) 41-43 and 57-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II in Paper No. 11 is acknowledged. The traversal is on the ground(s) that inventions are so closely related that a search of Group II would include a search of Group I. This is not found persuasive because the inventions are divergent in subject matter and require divergent searches.

The requirement is still deemed proper and is therefore made FINAL.

Claims 41-43 and 57-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 44-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narita et al., U.S. Patent 6,468,933.

Narita et al. teach an alkali-free glass consisting of 40-70 wt% SiO₂, 5-20 wt% B₂O₃, 6-25 Al₂O₃, 0-10 wt% MgO, 0-15 wt% CaO, 0-10 wt% SrO, 0-30 wt% BaO, 0-10 wt% ZnO, 0.05-2 wt% SnO₂, and 0.005-1 wt% Cl₂. See abstract of Narita et al. Narita et al. teach that glass can

Art Unit: 1755

be used as a substrate for display technologies. See column 1, lines 7-10. Narita et al teach that it is preferable not to use Sb_2O_3 and As_2O_3 as fining agents due to toxicity. See column 3, lines 46-47. Narita et al teach that the glass is free from bubbles that result in display defects. See column 1, lines 49-52. The reference teaches that the glass can be formed by various methods including the downdraw process and the float process. See column 4, lines 11-14.

Narita et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Narita et al. overlap the compositional ranges of claims 44-56. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Narita et al. because overlapping ranges have been held to establish prima facie obviousness.

One of ordinary skill in the art would expect that glasses with overlapping compositional ranges would have overlapping ranges of properties as recited in claims 44-48, 55, and 56.

Claims 44-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peuchert et al., U.S. 6,417,124.

Peuchert et al. teach an alkali-free aluminoborosilicate comprising 50-70 wt% SiO_2 , 0.5-15 wt% B_2O_3 , 10-25 Al_2O_3 , 0-10 wt% MgO , 0-10 wt% CaO , 0-12 wt% SrO , 0-15 wt% BaO , 0-10 wt% ZnO , 0-5 wt% ZrO_2 , 0-5 wt% TiO_2 , 0-2 SnO_2 , and 0.05-2 MoO_3 . See abstract of Peuchert et al. The reference teaches that the glass can be used as a substrate for thin film

Art Unit: 1755

transistors, active matrix liquid crystal displays, and plasma addressed liquid crystals. See column 1, lines 6-11. The reference teaches that glasses for the above applications have high thermal shock resistance, high transparency over a broad spectral range (UV and VIS), and a density equal to or lower than 2.6 g/cm^3 . See column 1, lines 11-16. The reference teaches that the glasses can be produced by the float glass method, which produces streak-free substrates with low surface undulations. See column 1, lines 25-30. The reference teaches that the glasses are free from As_2O_3 and Sb_2O_3 . See column 5, lines 41-49. The reference teaches that the T_g is greater than 650°C . See column 7, line 46. The reference further teaches that the thermal expansion coefficient is from $2.8 \times 10^{-6}/\text{K}$ to $5.0 \times 10^{-6}/\text{K}$. See column 8, lines 43-44.

Peuchert et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Peuchert et al. overlap the compositional ranges of claims 44-56. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Peuchert et al. because overlapping ranges have been held to establish prima facie obviousness.

Claims 44-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watzke, German Patent DE 196 01 922 A1.

Watzke teaches an alkaline earth aluminoborosilicate glass consisting of 50-65 wt% SiO_2 , 5-15 wt% B_2O_3 , 10-20 Al_2O_3 , 0-10 wt% MgO , 0-20 wt% CaO , 0-20 wt% SrO , 0-20 wt% BaO ,

Art Unit: 1755

0-10 wt% ZnO, 0.01-1 wt% SnO, 0.1-2 wt% ZrO₂, 0-10 La₂O₃, 0-10 wt% Nb₂O₅, 0-10 wt% Ta₂O₅ and 0-10 wt% TiO₂. See the Derwent Abstract of Watzke. More specifically, Watzke teaches the compositional ranges are 53-63 wt% SiO₂, 5-15 wt% B₂O₃, 12-20 Al₂O₃, 0-5 wt% MgO, 2-10 wt% CaO, 0-10 wt% SrO, 3-15 wt% BaO, 0.01-1 wt% SnO, and 0.1-1 wt% ZrO₂. See page 3, lines 37-38 of DE 19,601,922. Watzke teaches that glass can be used as a substrate for display technologies or as thin layer solar cells. See the Derwent Abstract, use paragraph.

Watzke differs from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Watzke overlap the compositional ranges of claims 44-56. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Watzke because overlapping ranges have been held to establish prima facie obviousness.

One of ordinary skill in the art would expect that glasses with overlapping compositional ranges would have overlapping ranges of properties as recited in claims 44-48, 55, and 56.

Claims 44-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lautenschläger et al., U.S. Patent 6,465,381.

Lautenschläger et al. teach an alkali-free glass consisting of >60-65 wt% SiO₂, 6.5-9.5 wt% B₂O₃, 14-21 Al₂O₃, 1-8 wt% MgO, 1-6 wt% CaO, 1-9 wt% SrO, 0.1-3.5 wt% BaO, 0.1-1.5 wt% ZrO₂, 0.1-1 wt% SnO₂, 0.1-1 TiO₂ and 0.001-1 wt% CeO₂. See abstract of Lautenschläger

et al. Lautenschläger et al. teach that glass can be used as a substrate for display technologies. See Abstract of Lautenschläger et al. The reference teaches that the glasses used for display technologies have the following properties: coefficient of thermal expansion from 3.0 to $3.8 \times 10^{-6}/K$, T_g from 710 - 780 °C, a density less than or equal to 2.5 g/cm^3 , and free from visual defects such as inclusions, knots, and bubbles. See column 1, lines 35-67. Lautenschläger et al. teach that the glass can be produced with the above mentioned properties by the float glass or draw methods. See column 4, lines 41-52. The reference further teaches that As_2O_3 and Sb_2O_3 should not be contained in glasses produced in the float method but may be used in nonreducing conditions such as downdraw method. See column 7, lines 25-36.

Lautenschläger et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Lautenschläger et al. overlap the compositional ranges of claims 44-56. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Lautenschläger et al. because overlapping ranges have been held to establish prima facie obviousness.

Claims 44-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizawa et al., U.S. Patent 6,169,047.

Art Unit: 1755

Nishizawa et al. teach an alkali-free glass consisting of 58.4-66 wt% SiO₂, 5-12 wt% B₂O₃, 15.3-22 Al₂O₃, 0-8 wt% MgO, 0-9 wt% CaO, 3-12.5 wt% SrO, and 0-<2 wt% BaO. See abstract of Nishizawa et al. Nishizawa et al. teach that glass can be used as a substrate for various displays and photomasks. See column 1, lines 15-18. Nishizawa et al. teach that PbO, As₂O₃, and Sb₂O₃ are not incorporated except for unavoidable amounts. See column 4, lines 35-39. The reference teaches that the glasses have a strain point of at least 640°C, coefficient of thermal expansion from 27 to 40x10⁻⁷/°C, and a density less than 2.60 g/cc. See column 4, lines 53-60. The reference teaches that the glass is manufactured by the float process. See column 5, lines 23-27.

Nishizawa et al. differ from the instant claims by not teaching specific examples that lie within the compositional ranges nor ranges of glass components which are sufficiently specific to anticipate the claim limitations. However, the compositional ranges of Nishizawa et al. overlap the compositional ranges of claims 44-56. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the ranges of Nishizawa et al. because overlapping ranges have been held to establish prima facie obviousness.

One of ordinary skill in the art would expect that glasses with overlapping compositional ranges would have overlapping ranges of properties as recited in claims 44-48, 55, and 56.

Art Unit: 1755

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 703-305-0124. The examiner can normally be reached on 8:30am to 6:00 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 703-308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EAB
December 10, 2002


DAVID SAMPLE
PRIMARY EXAMINER